

CLAIMS

What is claimed is:

1. A method for dynamically provisioning computer system resources, the method comprising:

5 monitoring a connection performance parameter of a data communications port operating in a data communications protocol having a connection backlog queue having a connection backlog queue size; and

10 changing the connection backlog queue size in dependence upon the monitored connection performance parameter without interrupting the operation of the data communications port and without user intervention.

2. The method of claim 1 wherein:

5 monitoring a connection performance parameter further comprises receiving a connection request and determining that the connection backlog queue is full; and

10 changing the connection backlog queue size in dependence upon the monitored connection performance parameter further comprises increasing the connection backlog queue size.

3. The method of claim 1 wherein:

5 monitoring a connection performance parameter further comprises monitoring a connection backlog queue load; and

5 changing the connection backlog queue size further comprises changing the

backlog queue size in dependence upon the connection backlog queue load.

4. The method of claim 1 wherein:

monitoring a connection performance parameter further comprises calculating an average round trip time for a portion of a connection handshake and
5 calculating an average arrival interval between connection requests; and

changing the connection backlog queue size further comprises increasing the connection backlog queue size if the average arrival interval is less than the average round trip time and decreasing the connection backlog queue size if
10 the average arrival interval is greater than the average round trip time.

5. The method of claim 1 wherein:

monitoring a connection performance parameter further comprises calculating a bandwidth delay product for a connection backlog queue and comparing the
5 bandwidth delay product with the queue size; and

changing the connection backlog queue size further comprises changing the backlog queue size to at least the bandwidth delay product if the connection backlog queue size is less than the bandwidth delay product.

10

6. The method of claim 1 wherein:

monitoring a connection performance parameter further comprises measuring accept processing time; and
5

changing the connection backlog queue size further comprises changing the backlog queue size in dependence upon accept processing time.

7. The method of claim 1 wherein:

monitoring a connection performance parameter further comprises calculating an average accept processing time and calculating an average connection request arrival interval for a connection backlog queue; and

5 changing the connection backlog queue size further comprises increasing the connection backlog queue size if the accept processing time is greater than the connection request arrival interval.

10

10

8. A system for dynamically provisioning computer system resources, the system comprising:

means for monitoring a connection performance parameter of a data communications port operating in a data communications protocol having a connection backlog queue having a connection backlog queue size; and

means for changing the connection backlog queue size in dependence upon the monitored connection performance parameter without interrupting the operation of the data communications port and without user intervention.

10 9. The system of claim 8 wherein:

means for monitoring a connection performance parameter further comprises means for receiving a connection request and means for determining that the connection backlog queue is full; and

means for changing the connection backlog queue size in dependence upon the monitored connection performance parameter further comprises means for increasing the connection backlog queue size.

10

10. The system of claim 8 wherein:

means for monitoring a connection performance parameter further comprises means for monitoring a connection backlog queue load; and

5 means for changing the connection backlog queue size further comprises means for changing the backlog queue size in dependence upon the connection backlog queue load.

11. The system of claim 8 wherein:

means for monitoring a connection performance parameter further comprises
means for calculating an average round trip time for a portion of a connection
handshake and means for calculating an average arrival interval between
connection requests; and

means for changing the connection backlog queue size further comprises
means for increasing the connection backlog queue size and means for
decreasing the connection backlog queue size.

12. The system of claim 8 wherein:

means for monitoring a connection performance parameter further comprises
means for calculating a bandwidth delay product for a connection backlog
queue and means for comparing the bandwidth delay product with the queue
size; and

means for changing the connection backlog queue size further comprises
means for changing the backlog queue size to at least the bandwidth delay
product.

13. The system of claim 8 wherein:

means for monitoring a connection performance parameter further comprises
means for measuring accept processing time; and

means for changing the connection backlog queue size further comprises
means for changing the backlog queue size in dependence upon accept
processing time.

14. The system of claim 8 wherein:

means for monitoring a connection performance parameter further comprises
means for calculating an average accept processing time and means for
5 calculating an average connection request arrival interval for a connection
backlog queue; and

means for changing the connection backlog queue size further comprises
means for increasing the connection backlog queue size.

10

10

15. A computer program product for dynamically provisioning computer product resources, the computer program product comprising:

a recording medium;

5

means, recorded on the recording medium, for monitoring a connection performance parameter of a data communications port operating in a data communications protocol having a connection backlog queue having a connection backlog queue size; and

10

means, recorded on the recording medium, for changing the connection backlog queue size in dependence upon the monitored connection performance parameter without interrupting the operation of the data communications port and without user intervention.

15

16. The computer program product of claim 15 wherein:

means, recorded on the recording medium, for monitoring a connection performance parameter further comprises means, recorded on the recording medium, for receiving a connection request and means, recorded on the recording medium, for determining that the connection backlog queue is full; and

10

means, recorded on the recording medium, for changing the connection backlog queue size in dependence upon the monitored connection performance parameter further comprises means, recorded on the recording medium, for increasing the connection backlog queue size.

17. The computer program product of claim 15 wherein:

means, recorded on the recording medium, for monitoring a connection performance parameter further comprises means, recorded on the recording medium, for monitoring a connection backlog queue load; and

means, recorded on the recording medium, for changing the connection backlog queue size further comprises means, recorded on the recording medium, for changing the backlog queue size in dependence upon the connection backlog queue load.

18. The computer program product of claim 15 wherein:

means, recorded on the recording medium, for monitoring a connection performance parameter further comprises:

means, recorded on the recording medium, for calculating an average round trip time for a portion of a connection handshake; and

means, recorded on the recording medium, for calculating an average arrival interval between connection requests; and

means, recorded on the recording medium, for changing the connection backlog queue size further comprises:

means, recorded on the recording medium, for increasing the connection backlog queue size; and

means, recorded on the recording medium, for decreasing the connection backlog queue size.

19. The computer program product of claim 15 wherein:

means, recorded on the recording medium, for monitoring a connection performance parameter further comprises means, recorded on the recording medium, for calculating a bandwidth delay product for a connection backlog queue and means, recorded on the recording medium, for comparing the bandwidth delay product with the queue size; and

10 means, recorded on the recording medium, for changing the connection backlog queue size further comprises means, recorded on the recording medium, for changing the backlog queue size to at least the bandwidth delay product.

20. The computer program product of claim 15 wherein:

means, recorded on the recording medium, for monitoring a connection performance parameter further comprises means, recorded on the recording medium, for measuring accept processing time; and

10 means, recorded on the recording medium, for changing the connection backlog queue size further comprises means, recorded on the recording medium, for changing the backlog queue size in dependence upon accept processing time.

21. The computer program product of claim 15 wherein:

15 means, recorded on the recording medium, for monitoring a connection performance parameter further comprises means, recorded on the recording medium, for calculating an average accept processing time and means, recorded on the recording medium, for calculating an average connection

request arrival interval for a connection backlog queue; and

means, recorded on the recording medium, for changing the connection backlog queue size further comprises means, recorded on the recording medium, for increasing the connection backlog queue size.

5